

**Remarks on the spider fauna of the Urals, 3. *Devade* Simon, 1884,
a genus new to the Urals, with notes on *Devade indistincta*
(O. P.-Cambridge, 1872) (Arachnida Aranei Dictynidae)¹.**

**Заметки по фауне пауков Урала, 3. *Devade* Simon, 1884 -
новый для Урала род с замечаниями о *Devade indistincta*
(О. Р.-Cambridge, 1872) (Arachnida Aranei Dictynidae)¹.**

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KEY WORDS: *Devade*, South Urals, Middle Asia, new species and subspecies.

КЛЮЧЕВЫЕ СЛОВА: *Devade*, Южный Урал, Средняя Азия, новый вид и подвид.

ABSTRACT. Based on fresh materials from Tunisia and Middle Asia, *Devade indistincta* (O. P.-Cambridge, 1872) (= *Altella tenella* Tystchenko, 1965, **syn. n.**) is redescribed in detail, with notes on its morphological variability. *Devade indistincta tatyanae* subsp. n. and *Devade uimensis* sp. n. have been described from the South Urals, Russia.

РЕЗЮМЕ. По новым материалам из Туниса и Средней Азии детально переописан *Devade indistincta* (О. Р.-Cambridge, 1872) (= *Altella tenella* Tystchenko, 1965, **syn. n.**) с замечаниями о морфологической изменчивости вида. Описаны *Devade indistincta tatyanae* subsp. n. и *Devade uimensis* sp. n. с Южного Урала (Россия).

Introduction

The spider genus *Devade* Simon, 1884, is currently known to comprise three species: *D. pusilla* Simon, 1910 (Algeria), *D. libanica* (Denis, 1955) (Lebanon), and *D. indistincta* (O. P.-Cambridge, 1872) [Lehtinen, 1967]. The latter species is very widespread and it has been repeatedly described under various names within several genera and even families. All this has caused a lot of confusion.

Recently, working up the collections of the Perm State University (PSU), Zoological Museum of the Moscow State University (ZMUM), and Zoological Institute of the Kirghiz Academy of Sciences, Bishkek (ZIB), I have come across several new (sub)species of the genus *Devade*. The present

paper is devoted to a redescription of *D. indistincta* based on new material from Tunisia, Middle Asia, and Volgograd Area, Russia, as well as to the description of a new subspecies and a new species from the South Urals.

Material and methods.

Specimens have been borrowed from or housed in the following museums as indicated below: ZMUM (courtesy of Dr. K. G. Mikhailov); ZIB (courtesy of Mr. S. V. Ovtchinnikov); and PSU.

In the text, each locality is followed by the respective number put in square brackets ([]) and referring to the number in Map. The sequence of leg segments in measurement data is as follows: total = femur + patella and tibia + metatarsus + tarsus. The following abbreviations have been accepted in the text: AM - anterior median eyes, AL - anterior lateral eyes, PM - posterior median eyes, PL - posterior lateral eyes, MES - medial epigynal septum. All measurements are in mm.

Descriptions

Devade indistincta indistincta (O. P.-Cambridge, 1872).

Figs 1a-d; 2a-f; 3a-c; 4a-d.

Amaurobius indistinctus O. Pickard-Cambridge, 1872: 264, ♀, fig.; Bonnet, 1955: 288.

Devade indistincta: Lehtinen, 1967: 228, ♀, fig.

Diotima hirsutissima Simon, 1880: 65, ♂ & ♀, figs.

¹ - Remarks 1 and 2 have been reported in the Zoologicheskyy Zhurnal, Moscow, 1992, Vol. 71, Nos 11 and 12, respectively.

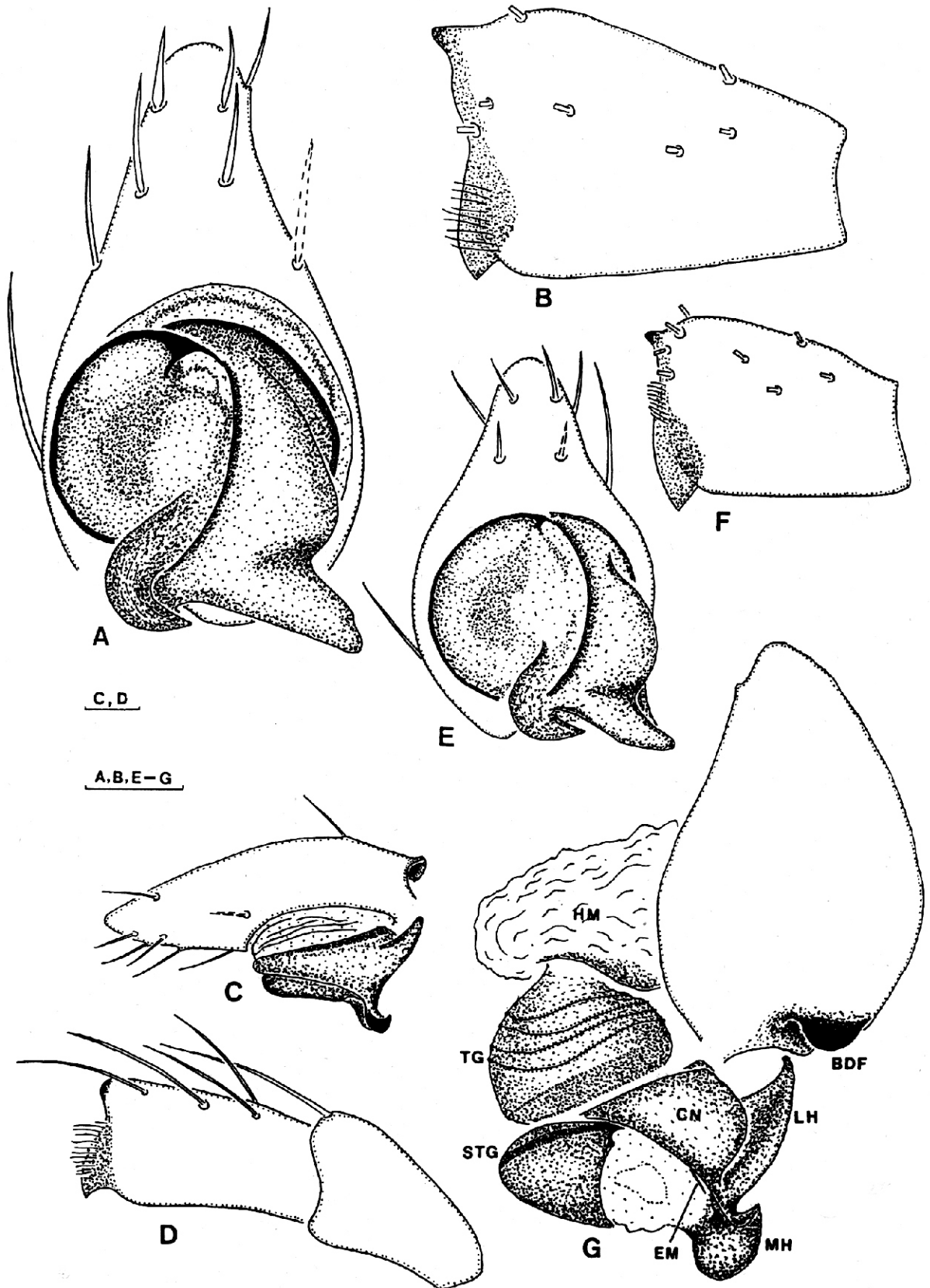


Fig. 1. *Devade indistincta indistincta* (O. P.-Cambridge, 1872) from Tashauz Area, Turkmenistan (a-d), and *D. indistincta tatyanae* subsp. n. (e-g): a, e - palp, ventral view; b, f - tibia of palp, lateral view; c - palp, lateral view; d - patella and tibia of palp, lateral view; g - expanded palp; bdf - basodorsal fold of cymbium; cn - conductor of embolus; em - embolus; hm - haematodocha; lh - lateral hook of conductor; mh - medial hook of conductor; stg - subtegulum; tg - tegulum. — Scale 0.01 mm.

Рис. 1. *Devade indistincta indistincta* (О. Р.-Cambridge, 1872) из Ташаузской области Туркменистана (а-д) и *D. indistincta tatyanae* subsp. n. (е-г): а, е - палепа, вид снизу; б, ф - голень палепа, вид сбоку; с - палепа, вид сбоку; д - колено и голень палепа, вид сбоку; г - развернутая палепа; бдф - базодорсальная складка цимбия; сп - кондуктор эмболюса; ем - эмболюс; гм - гематохоха; лх - латеральный зубец кондуктора; мх - медиальный зубец кондуктора; стг - субтегулум; тг - тегулум. — Масштаб 0.01 мм.

Devade hirsutissima: Simon, 1884: 323; Bonnet, 1956: 1406; Chamberlin & Gertsch, 1958: ♂, figs; Brignoli, 1983: 520.

Striatinella spinosa Denis, 1956: 448, ♀, figs.

Akella libyca Denis, 1947: 29, ♀, fig.

Akella tenella Tystschenko, 1965: 696, ♀, figs, syn. n.; Brignoli, 1983: 520.

Momius tenellus: Ovtsharenko & Fet, 1980: 445.

Devade tenella: Marusik, 1989: 50.

Momius hispidus Andreeva & Tystschenko, 1969: 380, ♂, figs; Andreeva, 1976: 27, ♂, figs; Brignoli, 1983: 495.

Momius paradoxus: Savelieva, 1972: 6; Ovtsharenko & Fet, 1980: 445. Nomen nudum.

Momius sp.: Savelieva, 1979: 140.

MATERIAL. 1♀ (ZIB), Tunisia, 09.1983; collector unknown. 1♀ (ZMUM: *Momius tenellus*, det. K. G. Mikhailov), Russia: Volgograd Area, Pallasovka Distr., near Lake Elton, on soil, 18.06.1972, 1♀ (ZMUM: *Momius tenellus* - det. K. G. Mikhailov), same locality, *Salsola* sp. bush, 8.07.1974; 1♀ (ZIB), Kazakhstan, Dzhambul Area, Sarysu Distr., Lake Bolshoye Kashkali, salina, tube in soil, 27.06.1989, leg. A. A. Zyuzin. 1♂, 1♀ (ZIB), Turkmenistan, Tashauz Area, Lake Sarykamys, 29.05.1986, leg. O. S. Soyunov.

DESCRIPTION. MALE: Total length 4.13. Carapace 1.88 long, 1.45 wide, brown; thorax somewhat paler than cephalic part. Eye field black. Sternum brown. Shapes of sternum, labium and maxillae as in Fig. 2e. Chelicerae brown, 0.95 long, with three (middle tooth biggest) promarginal and two retromarginal teeth, beset with numerous cuticular, setigerous tubercles. Legs yellow. Length of leg segments: leg I - $5.19 = 1.48 + 1.81 + 1.15 + 0.75$; leg II - $4.96 = 1.38 + 1.73 + 1.15 + 0.70$; leg III - $4.65 = 1.30 + 1.45 + 1.20 + 0.70$; leg IV - $5.92 = 1.63 + 1.91 + 1.63 + 0.75$. Femora I, II and IV each with one dorsal and one prolateral spine; femur III in addition with a retrolateral spine. Tibia I with a prolateral spine; tibia II with one dorsal and one prolateral spine. Metatarsi I and II armed with apical spines only. Armature of tibiae and metatarsus III and IV especially profound (Figs 4c-d). Diameter of eyes 0.08. Median eyes forming a square: AM-AM = PM-PM = AM-PM = 0.07. AM and AL close together but not contiguous. Anterior row of eyes weakly curved, posterior row nearly equidistant: PL-PM = 0.08. Distance between AL and PL equal to eye radius (0.04). Clypeus as high as eye diameter.

Abdomen 2.25 long, 1.40 wide, light grey, paler on its underside, dorsally with a brown pattern of transverse stripes (Fig. 2f). Abdomen covered with thin, dense, adpressed pubescence and more sparse, stronger, long, black hairs turning paler and somewhat denser caudally.

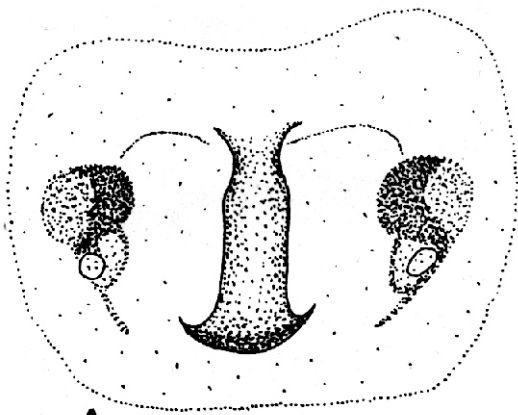
Femur of palpi with two apical spines: dorsal and prolateral. Armature and shape of palpal tibia as in Figs 1b, d. Cymbium of palpi with numerous spines (Figs 1a, c).

FEMALE: Total length 4.24 (3.20-5.37)². Carapace 1.72 (1.39-2.25) long, 1.29 (1.07-1.70) wide. Coloration like in ♂. Carapace with a row of seta extending from dorsal groove to PM (Fig. 2f). Length of leg segments: leg I - $4.64 (3.61-6.29) = 1.37 (1.05-1.83) + 1.61 (1.28-2.18) + 1.03 (0.80-1.45) + 0.63 (0.48-0.83)$; leg II - $4.44 (3.51-5.77) = 1.30 (1.03-1.73) + 1.55 (1.23-2.03) + 0.99 (0.80-1.28) + 0.60 (0.45-0.73)$; leg III - $4.25 (3.34-5.51) = 1.18 (0.90-1.58) + 1.37 (1.08-1.80) + 1.07 (0.88-1.33) + 0.63 (0.48-0.80)$; leg IV - $5.47 (4.33-7.24) = 1.52 (1.25-2.03) + 1.80 (1.40-2.48) + 1.45 (1.13-1.88) + 0.70 (0.55-0.85)$. Leg armature like in ♂. Calamistrum with 11-16 setae. Eye sizes and shapes like in ♂.

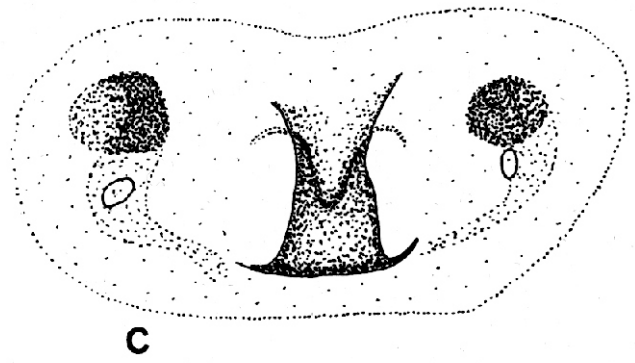
Abdomen 2.51 (1.80-3.12) long, 1.58 (1.10-2.13) wide. Coloration like in ♂ (Fig. 2f). Epigyne as in Figs 2a-d & 3a-b; vulva as in Fig. 3c. MES 0.16 (0.14-0.18) long, 0.07 (0.06-0.08) wide. Diameter of receptacula 0.09 (0.07-0.10). Distance between MES and receptacula 0.07 (0.05-0.08), that between receptacula 0.21 (0.15-0.25).

VARIABILITY. This species displays a pronounced variation range in a number of characters. The total length in *D. indistincta* varies from 3 (France: Simon, 1911; archipelago in the Red Sea: Denis, 1956; Tadzhikistan: Andreeva & Tystschenko, 1969) via 4.7 (Israel: Pickard-Cambridge, 1872; Lebanon: Denis, 1947) up to 5.4 (Volgograd Distr., Russia). Variability in the total length is observed both between distant and local populations, for example, Lebanon from 3.75 to 4.75 [Denis, 1947], and Volgograd Area, Russia from 3.2 to 5.4. A similarly pronounced variation range concerns the shape of the epigyne as well, i.e. between-population as in Figs 2a, d & 3a, and intrapopulation as

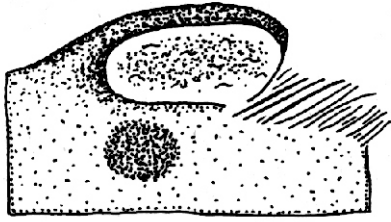
² From now on, the sequence of measurements is will be as follows: mean (minimum-maximum).



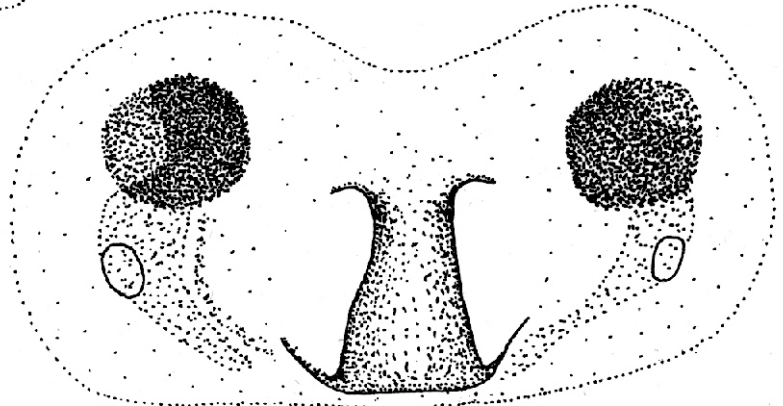
A



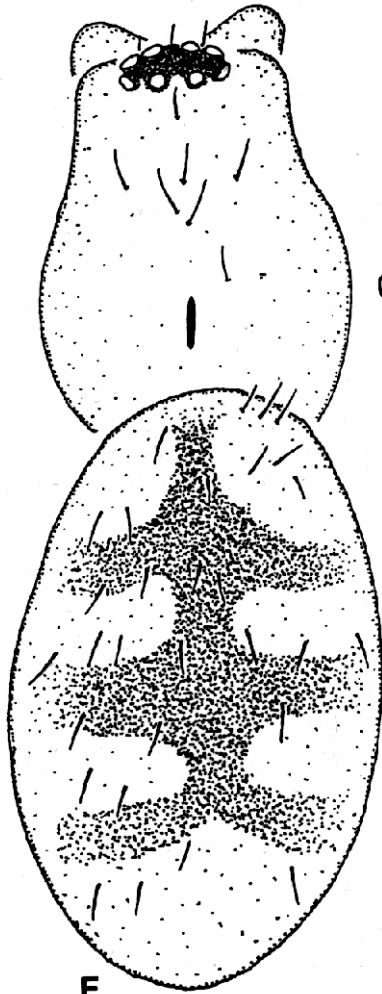
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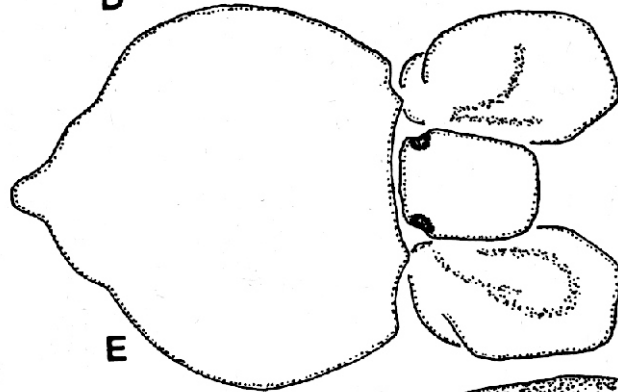
B



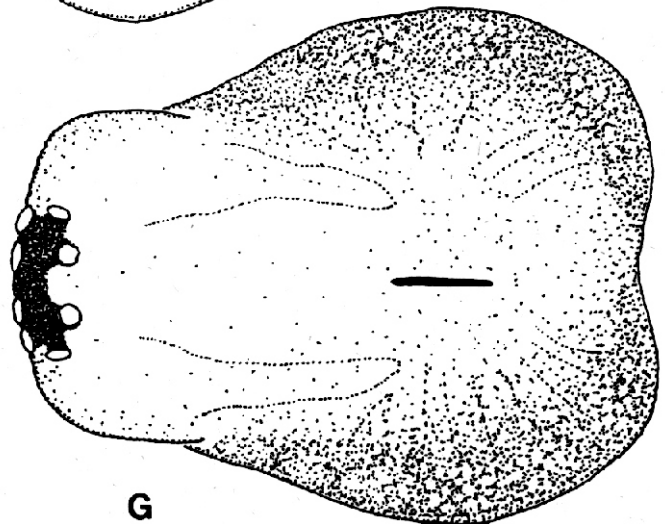
D



F



E



G

E-G

F

A-D

Fig. 2. *Devade indistincta indistincta* (O. P.-Cambridge, 1872) from Tunisia (a, b, e, f) and Volgograd Area, Russia (c, d), and *D. uienensis* sp. n. (g): a, c, d - epigyne, ventral view; b - epigyne, lateral view; e - sternum, labium and maxillae; f - ♀ habitus; g - carapace. — Scale 0.01 mm.

Рис. 2. *Devade indistincta indistincta* (O. P.-Cambridge, 1872) из Туниса (a, b, e, f) и Волгоградской области России (c, d) и *D. uienensis* sp. n. (g): a, c, d - эпигина, вид снизу; b - эпигина, вид сбоку; e - стернум, нижняя губа и максиллы; f - общий вид самки; g - головогрудь. — Масштаб 0.01 мм.

in Figs 2c, d. Both the armature of legs and the abdominal pattern, in particular the presence of dorsal, long, black hairs, seem to be the most stable characters.

DIAGNOSIS. The species is characterized by the presence dorsally on the abdomen of long, black hairs and a pattern as well as, in the ♀, of an ancoriform ventral MES fissure.

REMARKS. As given in the above catalogue, *D. indistincta* has long been a subject of great confusion. Early synonyms of this species, based on Mediterranean materials, have been investigated and published by Lehtinen [1967]. As regards the history of encounters of this species of Middle Asia, a ♀ from Akmolinsk (now Akmola) Area, Kazakhstan was first described and figured by Tystchenko [1965] as *Altella tenella*. Judged from the original description alone of the shape of the epigyne as well as the body size, coloration, in particular the abdominal pattern, and leg armature, it undoubtedly belongs to *D. indistincta*.

A few years later, Andreeva & Tystchenko [1969] described and illustrated a ♂ from Tadzhikistan as *Momius hispidus*, designating it as the type-species of a new genus, *Momius*. Having captured ♂♂ and ♀♀ of this species together, Ovtsharenko & Fet [1980] and synonymized rightly *Momius hispidus* under *Altella tenella*. In the same paper, an undescribed *Momius paradoxus* was mentioned in a section referring to the distribution of "*Momius tenellus* (Tyst.)". The name "*Momius paradoxus* sp. n." [Savelieva, 1972] had never been validated by a description, furthermore Savelieva [1980] referred to it later as a "*Momius* sp. n.", so we face a doubtless nomen nudum.

Recently, Marusik [1989] has synonymized *Momius* Andreeva & Tystchenko, 1969, under *Devade* Simon, 1884, and suggested that *Devade tenella* was a junior synonym of *D. hirsutissima*. I confirm Marusik's observation and formally consider *D. tenella* as a subjective synonym of *D. indistincta*, **syn. n.**

DISTRIBUTION. Russia: Kalmykia [1] [Minorskiy & Ponomarev, 1984; Ponomarev & Minorskiy, 1984: sub *Altella tenella*], Volgograd Area [2] (see above). **Turkmenistan:** Badkhyz Reserve [5] [Ovtsharenko & Fet, 1980], Tashauz Area [4] (see above). **Kazakhstan:** Kzylorda Area [6] [Pavlenko,

1985: sub *Momius tenellus*], Akmolinsk Area [8] [Tystchenko, 1965], East-Kazakhstan Area [9] [Savelieva, 1979], Dzhabul Area [7] (see above). **Tadzhikistan:** Parkhar Distr. [10] [Andreeva & Tystchenko, 1969; Andreeva, 1975, 1976]. **Kirghizia:** Osh [11] and Issyk-Kul [12] areas [Ovtchinnikov, 1988] (Map). **South Europe:** France, Spain, Greece [Denis, 1947; Bonnet, 1956], Hungary [Chyzer & Kulczynski, 1897]. **Near East:** Israel [Pickard-Cambridge, 1872], Syria [Denis, 1947]. **North Africa:** Tunisia, Algeria, Libya, Egypt [Denis, 1947], archipelago in the Red Sea [Denis, 1956].

HABITATS. *D. indistincta* has long been reported to be associated with salinated soils [Simon, 1884, 1911; Chyzer & Kulczynski, 1897; Denis, 1947; Ovtsharenko & Fet, 1980; Minoranskiy & Ponomarev, 1984] and/or with sea coasts [Simon, 1884; Pavlenko, 1985]. In Middle Asia, it has been found in the mountains where it occurs "in more humid side valleys" [Andreeva, 1975: 345] and at the sandy bank of a brook. Specimens of this species have been captured under stones, in soil crevices and even "in a mussel shell" [Denis, 1947: 20].

Adults appear to mainly occur in spring and early summer (April-June), although adult ♀♀ have been observed also in autumn (August in Kirghizia) [Ovtchinnikov, 1988].

Devade indistincta tatyanae subsp. n.

Figs 1e-g, 3d-e.

Devade sp.: Esyunin, Pakhorukov, 1992: 2.

MATERIAL. Holotype ♂ (ZMUM), Russia, Chelyabinsk Area, Troitsk Distr., Troitsky Forest-Steppe Reserve, salina, on soil surface, 6.07.1988, leg. S. Esjunin. — Paratypes: 2♂♂, 4♀♀ (ZMUM), together with holotype; 2♂♂, 1♀ (PSU), same locality, pitfall-trap, 15.07.1988, leg. S. Esjunin; 2♀♀ (PSU), same locality, small depression, 22.07.1988, leg. E. Novokshenova; 4♂♂ (ZMUM), same locality, pitfall-trap, 12.07.1989, leg. S. Esjunin; 1♂ (PSU), same locality, pitfall-trap, 1.07.1993, leg. S. Esjunin.

DESCRIPTION. MALE: Total length 2.77 (2.65-3.03). Carapace 1.29 (1.08-1.48) long, 1.04 (0.90-1.13) wide. Length of chelicerae 0.65 (0.55-0.80). Abdomen 1.45 (1.35-1.65) long, 0.94 (0.80-1.15) wide. Length of leg segments: leg I - 3.70 (3.24-4.03) = 1.08 (0.95-1.20) + 1.27 (1.08-1.40) + 0.81 (0.73-0.88) + 0.53 (0.48-0.55); leg II - 3.51 (2.99-3.89) = 1.02 (0.83-1.15) + 1.19 (1.03-1.30) + 0.79 (0.68-0.88) + 0.53 (0.45-

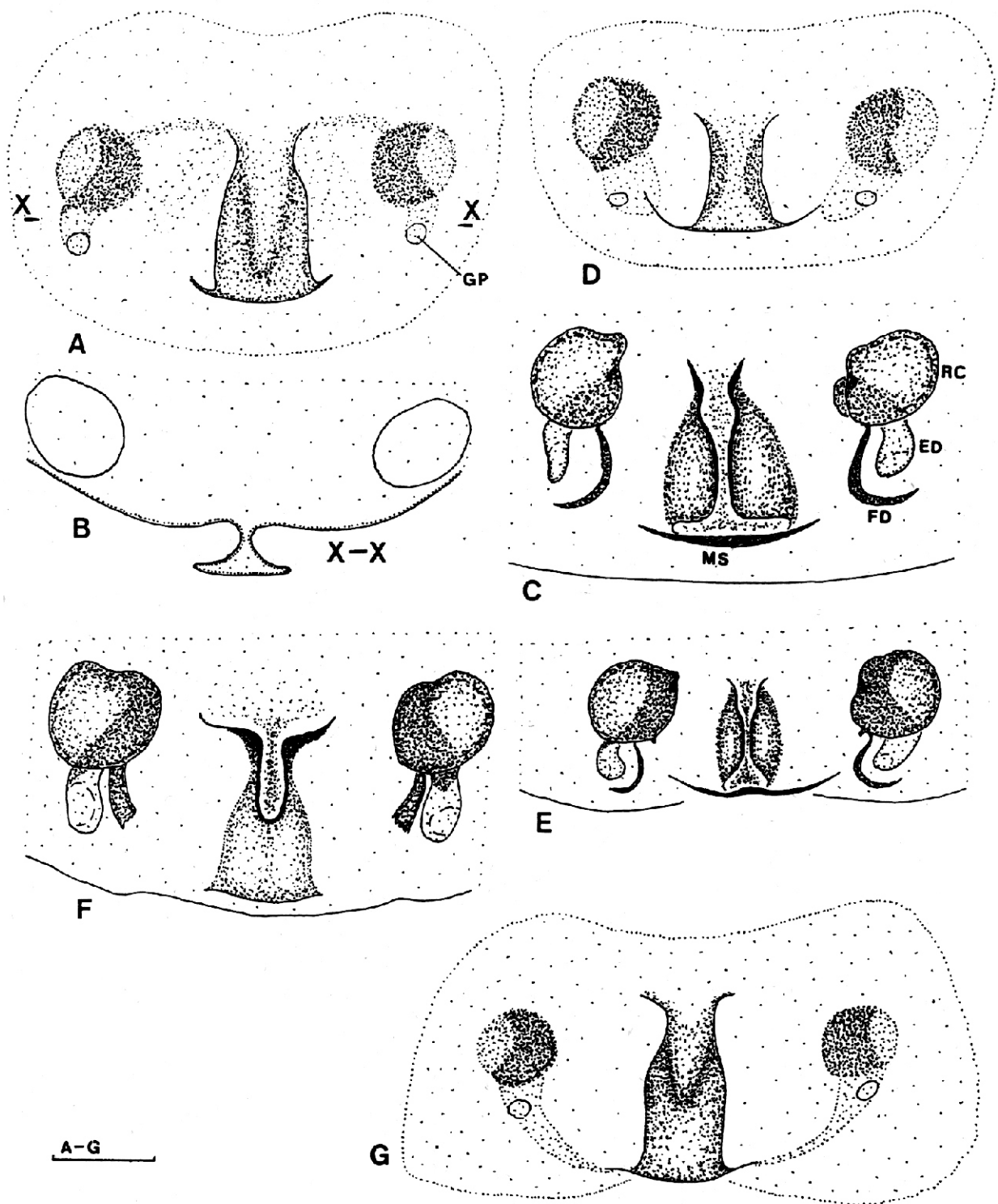


Fig. 3. *Devade indistincta indistincta* (O. P.-Cambridge, 1872) from Tashauz Area, Turkmenistan (a-c), *D. indistincta tatyanae* subsp. n. (d, e), and *D. uiensis* sp. n. (f, g): a, d, g - epigyne, ventral view; b - epigyne, cross-section; c, e, f - vulva: ed - entrance duct; fd - fertilizing duct; gp - genital pore; ms - medial epigynal septum, rc - receptacula. — Scale 0.01 mm.

Рис. 3. *Devade indistincta indistincta* (О. Р.-Кембридж, 1872) из Ташаузской области Туркменистана (а-с), *D. indistincta tatyanae* subsp. n. (d, e) and *D. uiensis* sp. n. (f, g): а, d, g - эпигина, вид снизу; б - эпигина, поперечный разрез; с, е, f - эндотина: ed - входной канал; fd - оплодотворительный канал; gp - половое отверстие; ms - срединная складка эпигины, rc - семяприемник. — Масштаб 0.01 мм.

0.58); leg III - 3.25 (2.86-3.59) = 0.95 (0.78-1.13) + 1.00 (0.90-1.08) + 0.81 (0.73-0.88) + 0.50 (0.45-0.55); leg IV - 4.29 (3.76-4.74) = 1.16 (1.03-1.33) + 1.43 (1.25-1.55) + 1.15 (0.98-1.28) + 0.55 (0.50-0.58). Coloration, armature of chelicerae and legs, shape of eye field like in the nominotypical subspecies; only eye size a little smaller, 0.07.

Femur of palpi with one prolateral apical spine. Armature of palpal tibia as in Fig. 1f; cymbial armature as in Fig. 1e.

FEMALE: Total length 3.26 (3.08-3.35). Carapace 1.24 (1.13-1.45) long, 1.00 (0.93-1.15) wide. Length of chelicerae 0.56 (0.45-0.63). Abdomen 1.97 (1.90-2.13) long, 1.36 (1.25-1.50) wide. Length of leg segments: leg I - 3.45 (3.04-3.68) = 1.03 (0.88-1.10) + 1.23 (1.10-1.30) + 0.72 (0.63-0.78) + 0.48 (0.43-0.50); leg II - 3.22 (2.89-3.41) = 0.93 (0.85-0.98) + 1.14 (1.00-1.23) + 0.70 (0.63-0.73) + 0.46 (0.41-0.50); leg III - 3.08 (2.69-3.34) = 0.89 (0.78-0.95) + 0.99 (0.85-1.08) + 0.73 (0.65-0.78) + 0.47 (0.41-0.53); leg IV - 4.01 (3.51-4.30) = 1.09 (0.98-1.16) + 1.39 (1.20-1.53) + 1.03 (0.90-1.13) + 0.51 (0.43-0.56). Calamistrum with 12-14 setae. Epigyne as in Fig. 3d, vulva as in Fig. 3e. MES 0.12

(0.10-0.14) long, 0.06 (0.06-0.07) wide. Diameter of receptacula 0.08 (0.07-0.08). Distance between MES and receptacula 0.06 (0.04-0.07), that between receptacula 0.16 (0.11-0.24).

DIAGNOSIS. The new subspecies differs from the nominotypical one by the smaller size combined with certain details of armature of the palpal tibia and cymbium, as well as by the shape of the ventral MES fissure.

DISTRIBUTION. Type locality only (Map).

HABITATS. *D. indistincta tatyanae* subsp. n. seems to be associated with damp saline bogs, running actively on the ground surface at night. Adult ♂♂ and ♀♀ have been taken in early to middle of summer.

ETYMOLOGY. The subspecies is named in honour of Tatyana G. Esyunina, my wife.

Devade uiensis sp. n.

Figs 2g; 3f,g; 4e-h.

Devade tenella (non Tystschenko): Esyunin & Pakhorukov, 1992: 9.

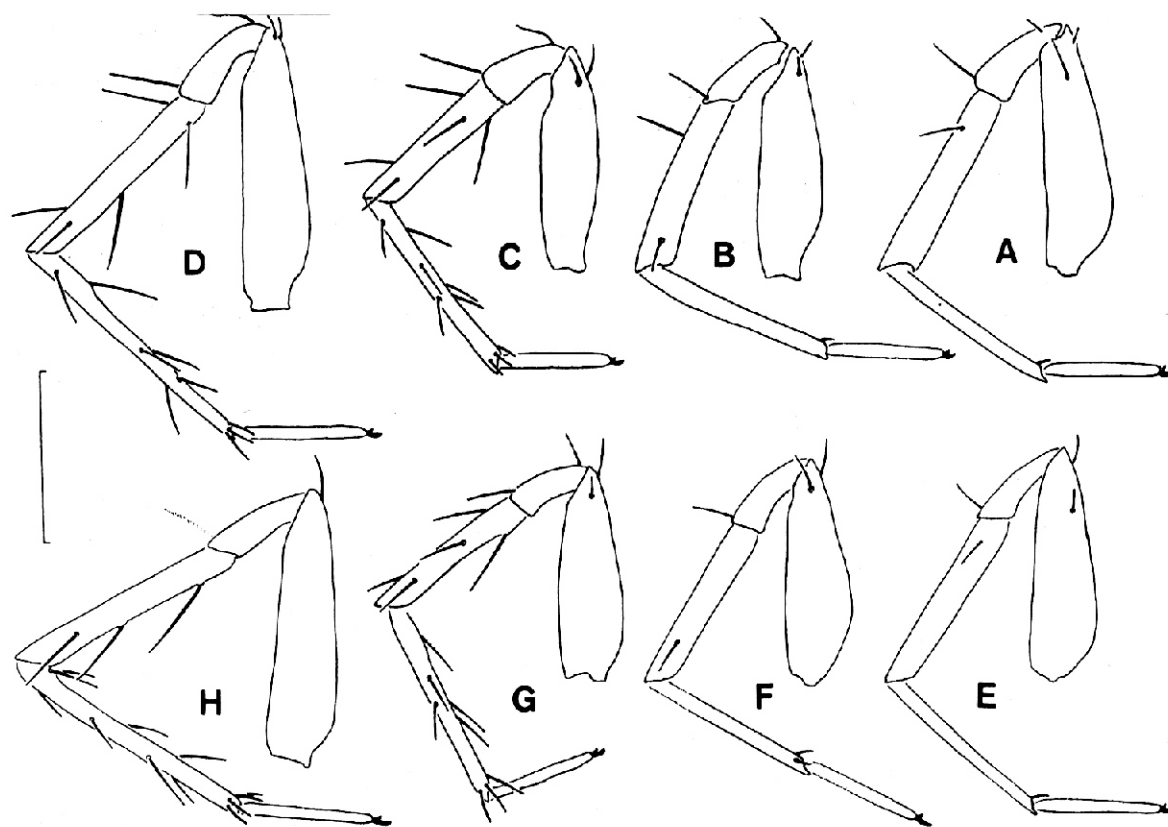
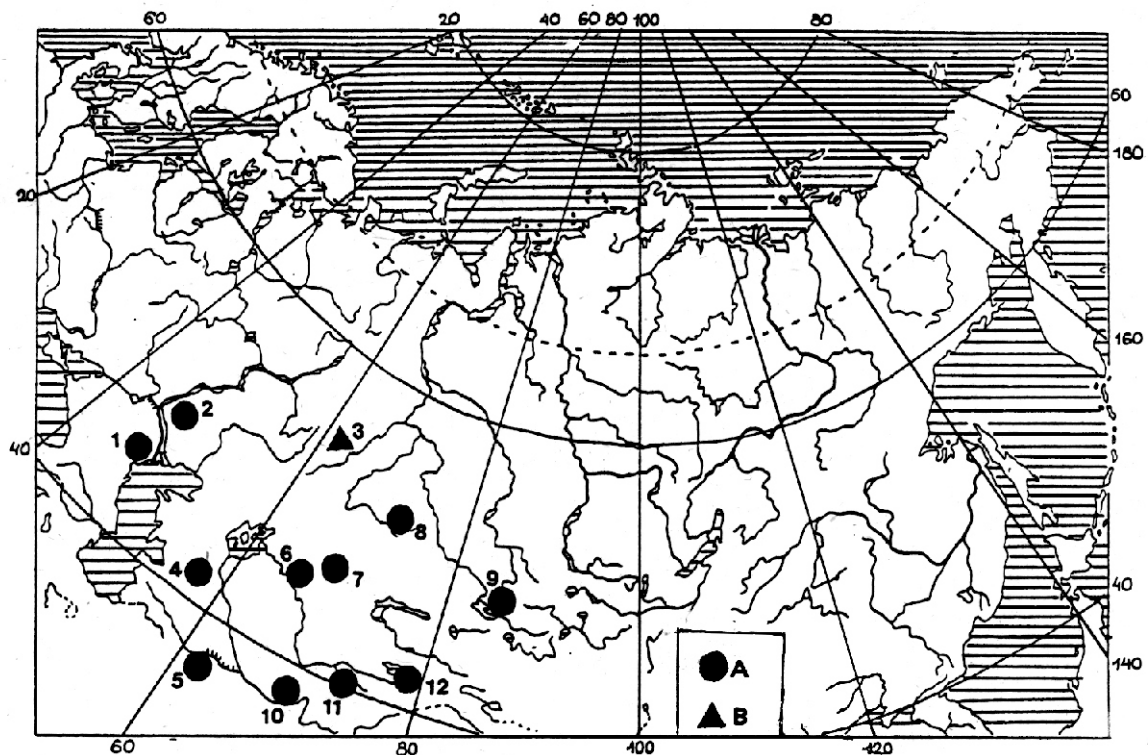


Fig. 4. Legs of *Devade indistincta indistincta* (O. P.-Cambridge, 1872) from Tashauz Area, Turkmenistan (A-D), and *D. uiensis* sp. n. (E-H): A & E, B & F, C & G, D & H - pairs 1, 2, 3, and 4, respectively.

Рис. 4. Ноги *Devade indistincta indistincta* (О. Р.-Cambridge, 1872) из Ташаузской области Туркменистана (А-Д) и *D. uiensis* sp. n. (Е-Н): А и Е, В и F, С и G, Д и Н - соответственно пары 1, 2, 3 и 4.



Map. Distribution of some *Devade* species and subspecies: A - *D. indistincta indistincta* (O. P.-Cambridge, 1872), B - *D. indistincta tatyanae* subsp. n. and *D. uisensis* sp. n.

Карта. Распространение некоторых видов и подвидов *Devade*: A - *D. indistincta indistincta* (O. P.-Cambridge, 1872), B - *D. indistincta tatyanae* subsp. n. и *D. uisensis* sp. n.

MATERIAL. Holotype ♀ (ZMUM), Russia, Chelyabinsk Area, Troitsk Distr., Uli River, shingle spit, under stones, 26.06.1989, leg. S. Esjunin.

DESCRIPTION. FEMALE: Total length 5.13. Carapace 1.73 long, 1.43 wide, brown, with dark radial stripes broadening from dorsal groove toward borders. Thorax with dark areas at borders and with brown, large spots. Chelicerae brown, 0.75 long, with three (middle tooth biggest) promarginal and two retromarginal teeth. Sternum brown, blackish at its margin. Palpi, coxae and femur IV yellow. Other leg segments darker. Length of leg segments: leg I - $4.96 = 1.35 + 1.73 + 1.15 + 0.73$; leg II - $4.84 = 1.33 + 1.63 + 0.73$; leg III - $4.54 = 1.23 + 1.43 + 1.18 + 0.70$; leg IV - $5.96 = 1.63 + 1.90 + 1.58 + 0.85$. Femora I, II and IV each with two spines: dorsal and prolateral. Femur III in addition with a retrolateral spine. Tibiae I and II each with a prolateral spine. Metatarsi I and II only with apical spines. Armature of tibiae and metatarsi III and IV especially abundant (Figs 4g, h). Calamistrum with 12 (right) or 14 (left) setae. Eye diameter 0.08. Median eyes forming a square: $AM-AM = PM-PM = AM-PM = 0.07$. AM and AL close together but not contiguous. Posterior row of eyes nearly equidistant: $PM-PL =$

0.06. AL-PL distance equal to eye radius (0.04). Clypeus as high as eye diameter.

Abdomen 3.40 long, 2.33 wide, grey. Epigyne as in Fig. 3f, vulva as in Fig. 3g. MES 0.15 long, 0.08 wide. Diameter of receptacula 0.07. Distance between MES and receptacula 0.08, that between receptacula 0.22.

MALE: unknown.

DIAGNOSIS. The new species is closely related to *D. indistincta* (O. P.-Cambridge, 1872), but it can be distinguished by (1) the shape of the ventral MES fissure, (2) shape of the fertilizing duct of the vulva, (3) coloration of the abdomen. It differs by some negative characters as well: (4) absence of a row of setae on the carapace and (5) absence of stronger, long, black hairs on the abdomen.

DISTRIBUTION. Type locality only (Map). Apparently, both taxa of *Devade* occurring near Troitsk, South Urals, avoid syntopy and prefer different habitats.

ETYMOLOGY. The species is named after the type locality.

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